

REMARKS

Claims 1 – 18 are presently pending in the application. Claims 1, 3, 7, 10, 14 and 15 have been amended, and claim 2 cancelled without prejudice. The substance of claim 2 has been incorporated into independent claim 1 to clarify the invention over the cited art. Claims 7 – 9, 11 – 12 and 16 stand objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claim. No new matter has been added and support for the amendments to the claims can be found in the specification and drawings. In view of the amendments and arguments for patentability set forth below, Applicants respectfully submits that the application is in condition for allowance.

Claim Rejections – 35 U.S.C. § 103(a)

Claims 1 – 6, 10, 13 – 15, and 17 – 18 stand rejected as being unpatentable over Kilgore et al. U.S. Patent No. 6,269,828 (“Kilgore”) in view of Singleton U.S. Patent No. 6,505,646 (“Singleton”). Applicants traverse this rejection and respectfully submit that the combination of Kilgore and Singleton fails to disclose or suggest the claimed invention.

In accordance with an aspect of the present invention as set forth in representative claim 1, as amended, there is provided a flow-through pressure regulator, comprising, *inter alia*:

...a flow diffuser member *including a plurality of segments forming a grid and including a portion disposed generally orthogonal to the longitudinal axis between the passage and the outlet*, the segments of the flow diffuser member defining a plurality of flow paths, each of the flow paths having a flow area that is less than the aperture flow area; and

a closure member being arranged between first and second configurations relative to the seat, the first configuration substantially preventing fluid communication through the passage, and the second configuration permitting fluid communication through the passage.

Claim 1 as amended (emphasis added).

The Examiner contends (Office Action, page 2):

Kilgore shows a housing 20 with inlets 210 and outlet 212, and a divider 30 comprising a diaphragm that holds a retainer 304. The retainer has a seat at passage 60 seen as a base portion, an intermediate portion above surrounding the passage, and an upper end portion holding at least one smaller diameter aperture 606C. The seat seals against closure member 64. Singleton teaches the use of a diffuser screen 9 between a valve and seat unit and the outlet of a valve to help reduce noise....It would have been obvious in view of Singleton to place a diffusing screen anywhere between the valve generating the noise (any location above ball 64 in Kilgore that doesn't interfere with the ball and seat) and the valve outlet, to help suppress noise.

At the outset, Applicants wish to point out that Kilgore fails to disclose a retaining member comprising “...*an intermediate portion* extending along the longitudinal axis from the base portion toward the outlet; *an end portion* extending from the intermediate portion; and *at least one aperture having a flow axis, the aperture having a flow area that is less than the passage flow area, the aperture permitting fluid communication between the passage and the second chamber...*” Kilgore discloses a retaining member 302 (see, e.g., Fig. 1) that is essentially a “cup-shaped” washer. Retaining member 302 does not have an intermediate portion, nor does it have any apertures with flow areas as defined in the present claim. Applicants do not understand the Examiner's contention that the retainer has “an intermediate portion above surrounding the passage, and an upper end portion holding at least one smaller diameter aperture 606c.” These elements are part of the valve seat assembly 304, not the retaining member 302.

With respect to Singleton, that reference discloses “...a cylindrical diffuser 9 that is spaced from the nozzles 8 so as to define an intermediate closed annular attenuation chamber 10.” See Col. 2, lines 27 – 29. This structure cooperates with convergent-divergent nozzles 8 that are disposed radially inwardly of the diffuser 9. See, e.g., Figs. 1 and 2. The diffuser here is located between the valve assembly and the outlet.

The Examiner contends above that it would be obvious (in view of Singleton) “to place a diffusing screen anywhere between the valve generating the noise ...and the valve outlet.” Applicants disagree but have nevertheless

amended independent claim 1 to clarify the claimed structure by reciting that the flow diffuser member includes “...a plurality of segments forming a grid and including a portion disposed generally orthogonal to the longitudinal axis between the passage and the outlet...” There is nothing in Singleton that teaches or suggests such an arrangement.


Finally, Applicants submit that even if Kilgore and Singleton are combined, such combination fails to reach the present invention as claimed since Kilgore does not teach or suggest the recited configuration for the retaining member as discussed above.

In view of the foregoing, Applicants respectfully submit that the combination of Kilgore and Singleton fails to teach or suggest the invention as recited in amended independent claims 1 and 14 (which contains similar limitations). In this connection, the claims that ultimately depend from claims 1 and 15 are believed to be patentable for at least the same reasons.

The Examiner is invited to contact the undersigned at (908) 707-1573 to discuss any matter concerning this application.

Respectfully submitted,
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By:

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